

ABSTRACT

A sub-assembly or package for a die in the receiving section of an optical transceiver includes a semiconductor sub-mount that is electrically connected to the die and a cap that is bonded to the sub-mount to hermetically seal the die in a cavity. The die can be flip-chip bonded to the sub-mount and can include a diffractive optical element fabricated on a back side of the die. Active circuitry such as an amplifier for an output signal from a photosensor on the die can be integrated into the sub-mount. For an OSA, a post can be attached to the package along a path of an optical signal to the photosensor. The post facilitates alignment of an optical fiber. A flexible or rigid circuit can be soldered to external terminals of the sub-mount.